



AMERICAN JOURNAL OF EDUCATION AND TECHNOLOGY (AJET)

ISSN: 2832-9481 (ONLINE)

VOLUME 2 ISSUE 2 (2023)



PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

Bridging the Gap between Digital Native Students and Digital Immigrant Professors: Reciprocal Learning and Current Challenges

Haytham Elaoufy^{*}

Article Information

Received: March 28, 2023

Accepted: April 18, 2023

Published: April 28, 2023

Keywords

*Challenge, Digital Immigrant,
Digital Native, Learning
Environment, Mutual
Learning, Technology*

ABSTRACT

The difference between individuals who have grown up using technology (digital natives) and those who have not (digital immigrants) continues to expand as technology develops. This gap is noticeable at universities where digital immigrant professors and native students interact. Since digital native students and digital immigrant professors have different learning and teaching preferences and needs, both sides must take these differences into account to create an effective learning environment. Thus, the current study was carried out to ascertain professors' perceptions regarding technology integration, their challenges, and what students (digital natives) and professors (digital immigrants) might learn from one another. The study included 206 EFL students and 19 EFL professors at Moulay Ismail University, Morocco, who successfully completed an online questionnaire. Based on the quantitative and qualitative findings obtained, it was found that despite the difficulties encountered, such as content overload, fake news, distraction, and technical concerns, both students and professors responded favorably to the topic of integrating technology in the educational sector. The findings also demonstrated that students who are digital natives could teach their professors a lot about how to use, navigate, and harness technology. Conversely, professors who are digital immigrants can teach students who are digital natives a lot about how to gather information from traditional sources, what to do when technology fails, and the value of interpersonal communication in the classroom.

INTRODUCTION

Technology has improved the effectiveness of learning and provided faster and more accurate information. Mete, Riegel, Kozen, & Polka (2017) mentioned that technology has not only transformed into a potent instrument for daily life but has also significantly affected education. In this context, the students of today are considered the first generation to have grown up with technology; they spend their entire lives surrounded by gadgets like computers, video games, cell phones, etc.

Yet, the effectiveness of technology in the classroom has been constrained by a fundamental issue with how educators and students perceive and use technology. This is why both digital native students and digital immigrant professors must make use of their power to enhance one another's technological expertise. However, the stigma attached to each group (e.g., digital immigrants are not at ease with technology while digital natives are) may prevent mutual learning from taking place (Riegel & Mete, 2017). Presenky (2001) asserts that students nowadays have undergone a significant transformation and are no longer the target audience for our educational system. Compared to their elders, students think and absorb information differently because of the way they were raised and because their thought processes have evolved. According to Drs. Bruce and Perry of the College of Medicine, various sorts of experiences result in diverse brain structures.

Digital immigrant instructors contend that their students are the same as they have always been and can still benefit

from the same effective teaching strategies for them as students. Yet, this statement is no longer true and valid due to technological advancements that make learners differ from their forebears. This presents a crucial question: Should students who are digital natives study the traditional methods, or should their professors, who are digital immigrants, learn the modern ones?

LITERATURE REVIEW

Digital Fluency

A person's capacity, competency, or dexterity in using information technology has been depicted in a variety of ways, such as digital literacy (Gilster 1997), computer literacy (Ktoridou & Eteokleous-Grigoriou 2011), information technology literacy (Ferro *et al.* 2011), computer self-efficacy (Compeau and Higgins, 1995), and information and communication technology competency (Guo *et al.* 2008). In this context, Wang *et al.* (2012) stated that, despite the fact that these terms are commonly used synonymously, the concept of digital fluency remains the most useful for conceptualizing the distinction between digital immigrants and digital natives.

National Research Council (1999) defined digital fluency as the capacity to develop and generate information rather than simply grasp it, and the capacity to reformulate knowledge to express oneself responsibly and creatively. This transcends the idea of digital literacy, which focuses on instructing students to utilize syntactically appropriate terms. This denotes that being technologically fluent includes knowing how to interact with technology and

¹ Applied linguistics and language development laboratory, Faculty of letters and human sciences, Moulay Ismail University, Morocco

^{*} Corresponding author's e-mail: haytham.elaoufy@gmail.com

creating meaningful things using it (Papert and Resnick 1995).

Digital Natives Vs Digital Immigrants

Definitions

Sharma (2017) stated that the quick growth of technology has produced an important generational divide; this distinction causes a digital divide between generations. The preceding generation first came into contact with technical products after reaching puberty, but the next generation was born into a technologically advanced environment. Also, because each generation tends to hold on its customs, adults try to live in the past, youth in the present, and kids in the future, respectively. In this vein, Arabaci & Polat (2013) added that due to disparities in how different generations utilize technology, the notions of “digital natives” and “digital immigrants” have gained attention.

Prensky (2001) and Tapscott (1998) are mostly credited with coining the term “digital native” in literature in the late 1990s. Students who were born between 1980 and 1994 are known as “digital natives,” and they are the first generation to have grown up with modern technology. They are distinguished by their comfort and confidence with information and communication technologies (ICT). They have been surrounded by digital communication technologies for most of their lives (Gallardo-Echenique, Marques-Molas, Bullen, & Strijbos, 2015).

According to Barbuceanu (2020), a digital native student is someone who has grown up in the technological age and is able to communicate, share knowledge, and connect in a continuous, round-the-clock environment. He/she is fluent in the internet’s dialect after growing up with online games, Twitter, Facebook, Instagram, blogs, podcasts, YouTube, online news, text messaging, instant messaging, smart phones, iPads and many more. Digital native students, often known as members of generation X or even younger, were born in the digital era. This group is also referred to as the “iGeneration” or as having “digital DNA” from birth. In this context, Howe and Strauss (2003) attributed certain qualities that made them different from earlier generations to the Net generation. They offer a favorable impression of this new generation, portraying them as upbeat, collaborative achievers with technological talent.

As mentioned by Cimen and Hangul (2021), the term “digital immigrants” refers to people who become familiar with technological gadgets after adolescence and struggle to use technology. Even if they become accustomed to using digital technology, it is clear that they are not digital natives from the ways they use digital tools.

They consult printed resources rather than the internet to access information, and generally avoid using technological tools. In this regard, Wang, Myers, and Sundaram (2013) explained that digital immigrants are those who picked up computer skills at some point in their adult lives. They are presumptively resistant to new technology, or at least find it difficult to adopt it. (Vodanovich *et al.* 2010).

Types of Digital Native Students

Zur (2011) states that digital students can be divided into three segments. First, avoiders can be regarded as the first type of digital native students with no strong interest in digital technologies; they are not particularly drawn to social media platforms. This type is more likely to have a simple phone and not text at all. Second, minimalist students understand that technology is an avoidable component of daily life aim to use it sparingly and only when necessary. This denotes that they utilize Google only when their professors are unable to provide an answer and they use the Internet to make purchases from local stores, and they are more likely to check their social media accounts just once a day or even a few times a week. Third, passionate students make up a large portion of digital natives because they are the ones that appreciate and thrive on technology. They spend most of their time online watching videos and interacting on social media.

Types of Digital Immigrant Professors

Zur (2011) noted that there are three types of digital immigrant professors. The first type of educators is avoiders; they opt for ways of life that keep them away from technology. This means they eschew social media, email, and cell phones. They do not think much of technological and social media-related activities. Second, reluctant adopters are educators who use technology sparingly and only when it is absolutely necessary. Instead of being willing to employ these technical tools, this type is marked by its cautious and uneasy attitude toward them. Finally, passionate adopters are digital immigrants who are professors with the ability to keep up with natives; they vivaciously embrace technology and fully immerse themselves in the online world. They encourage the usage of social media platforms and work hard to do so.

Characteristics of Digital Native Students

Digital native students are those who were born into the technological era, and most of their actions are carried out online, as mentioned by Bilgic, Seferoglu, and Dogan (2016). In this vein, Gu, Zhu, and Guo (2013) claimed that students who are digital natives are constantly exposed to technology, both within and outside of the classroom. This enables them to access information quickly and deal with a variety of tasks using technology, such as collaborating with classmates and completing projects. Digital natives are distinguished from digital immigrants by a variety of traits. First of all, students who are digital natives are constantly online and connected. They multitask and switch between tasks quickly. They are capable of high-speed tasks like eating and multitasking while viewing YouTube videos and using Google while playing music.

Additionally, because native digital students prefer to study visually rather than through text, they want an environment that is rich in images. They like information presented in graphics, charts, tables, and images rather than lengthy reading tasks. Last but not least, students

who are digital natives prefer to learn in groups. They are outgoing and want to share their opinions online, post things that are important to them, and get response from the audience.

Characteristics of Digital Immigrant Professors

Digital immigrant instructors may learn to use technology, but they are still somewhat rooted in the past and are unable to fully comprehend the natives, according to Helsper & Eynon's (2011) explanation. In this context, Prensky (2001) resembles this to the difference between the learning of a new language and being a native speaker of it. However, digital immigrant professors have different traits, such as the preference for in-person interactions over texting on social networking platforms. They prefer to communicate with a small number of students rather than a huge group of students like those found in Facebook or Whatsapp groups. Additionally, they dislike working on screens and feel much into completing tasks in a traditional and old-fashioned way, such as reading printed books and gathering information from articles and journals rather than searching the internet.

ICT Implementation in the Learning Environment

The concept of "information and communication technologies" (ICT) was developed to help people deal with the explosion of information. ICT includes a broad range of technological tools, electronic gadgets, and resources that are used for information management, communication, and dissemination. ICT is becoming a larger part of our daily lives as a result of the increased access to information and use of the internet. The urge to include ICT in the educational area is brought on by the rapidly expanding usage of ICT in numerous domains. According to Valek and Sladek (2012), the goal of society has been to bring computers and the Internet into schools for a considerable amount of time—at least 15 years. The primary driving force behind this initiative has been the concern of decision-makers about the ability of future generations to compete in a world that is already heavily reliant on technology. Today, the issue of people losing focus while immersed in the online environment is more frequently visible. The primary symptom is the inability to concentrate on the long-term resolution of a specific task or a challenge, such as reading a longer continuous text. This considerably complicates education for youngsters of the "Net generation" (those born after 1993). In general, Valek & Sladek (2012) added that technology does not only offer resources for thinking and decision-making but also shapes students' cognitive functions. Computer-assisted teaching is becoming a common practice across the globe. Nonetheless, instructors have a lot of control over how ICT is taught in the classroom and online. The ability of the teachers to manage and effectively use all of the contemporary tools at their disposal in the classroom has a considerable impact on the outcome of the educational process. Due to the availability of several technology tools, teachers now

have a variety of options for how they might carry out activities in accordance with the features of their chosen educational modality (Rapanta *et al.*, 2020). In this regard, Peimani & Kamalipour (2021) stated that when referring to dominating technical abilities, the phenomenon of skills scarcity happens when teachers become aware of the new educational setting and the necessity to build pedagogical and technological skills to adapt them to the new teaching contexts. Nonetheless, there is concrete proof that technology offers effective teaching tools, but their full potential is rarely realized because they are used in isolation from the teaching and student learning processes (Vassilakopoulou & Hustad, 2021).

Reciprocal Learning in the Digital Era

Education has transformed over the past few decades into a two-way street where teachers and students share knowledge, experience, and learn together (Branscombe, Goswami, Schwartz, & Bowen, 1992). In this view, Prensky (2001) mentions that we can anticipate conflicts and miscommunication between two fundamental groups, the so-called "digital immigrants" and "digital natives," as a result of the existence of various groups of ICT users. Valek and Sladek (2012) explained that a wide range of scenarios can occur in work groups, such as when a group of digital natives is led by a poorly adjusted digital immigrant or when a group of digital immigrants is led by a digital native. The family is another setting where immigrant and digital native groups encounter challenges. In general, digital natives use digital technology more, faster, and better than digital immigrants, and they frequently lack the ability or desire to explain to digital immigrants how and why to carry out a certain duty. Also, immigrants to the digital world do not progress at the same rate as digital technology as a whole. But digital immigrants can more accurately assess the information provided by the virtual world since they have more real-world experience.

According to Riegel and Mete (2017), students have a tremendous amount of knowledge to offer teachers, just as teachers have a wealth of knowledge to offer students. Thanks to reciprocal learning, all educational participants can benefit from one another's knowledge in a classroom setting. This idea of reciprocal learning is true regarding technology; both digital natives and digital immigrants have a lot to offer one another. Given the distinctive traits of both digital immigrants and natives mentioned earlier, it follows that each group's abilities can be used to further technology.

METHODOLOGY

Research Problem

The gap between older and younger generations has grown as a result of advancements in information and communication technology. However, the idea that a new generation of students is entering the educational system has recently drawn attention from academics and been a topic of interest in the research field.

All “native speakers” of the digital language of computers, gadgets, videogames, and the Internet are considered “digital natives.” They are and will always be compared to those who were not born into today’s digital world but who, at some point in life, became attracted to and accepted many or most features of the new technology. In this context, people who are referred to as “digital natives” or the “Net generation” are believed to have grown up surrounded by technology, giving them advanced technical abilities and learning preferences for which traditional schooling is unprepared.

Information and communication technology (ICT) has become essential to the lives of the current generation of students attending educational institutions. In this vein, it is argued that digital native students’ usage of ICTs sets them apart from earlier student and teacher generations and that these differences are so substantial that the whole nature of education itself needs to change to suit the knowledge and interests of these “digital natives.”

Research Objectives

Following the foregoing discussion, several objectives have been identified. The study in general aims at exploring the issue of reciprocal learning between digital native students and digital immigrant professors in the digital era. The objectives are;

A- To explore digital immigrant professors’ perceptions

toward ICT incorporation in the learning environment.

B- To determine the challenges faced by professors when they incorporate technology into their teaching process.

C- To find out what digital native students can teach to digital immigrant professors.

D- To find out what digital immigrant professors can teach to digital native students.

Research Questions

Q1: What do digital immigrant professors believe about ICT incorporation in the learning environment?

Q2: What are the challenges faced by professors when they incorporate technology into their teaching process?

Q3: What can digital native students teach to digital immigrant professors?

Q4: What can digital immigrant professors teach to digital native students?

Research Instrument

Two online questionnaires are used in the study to gather data. The first questionnaire is intended for Moulay Ismail EFL University students in Morocco, and the second is intended for instructors at the same institution. Both quantitative and qualitative questions are present in each of the questionnaires.

Sample and Setting

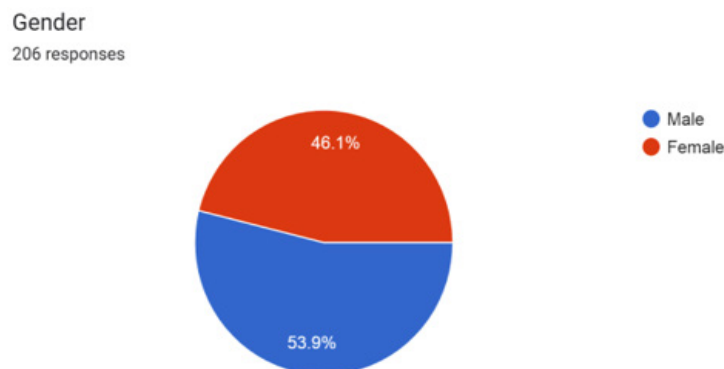


Figure 1: Participants by Gender

Figure 1 demonstrated that 206 EFL students from Moulay Ismail University successfully completed the online questionnaire. There are 95 female students and 111 male students.

According to Figure 2, 50 respondents are above 25 and 58 are less than 20 years old, making up the 98 respondents who are between 20 and 25 years old.

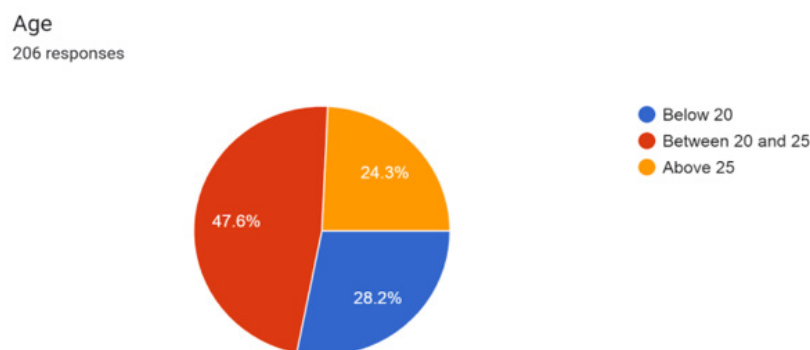


Figure 2: Participants by Age

How much time do you spend on e-learning on a daily basis?

206 responses

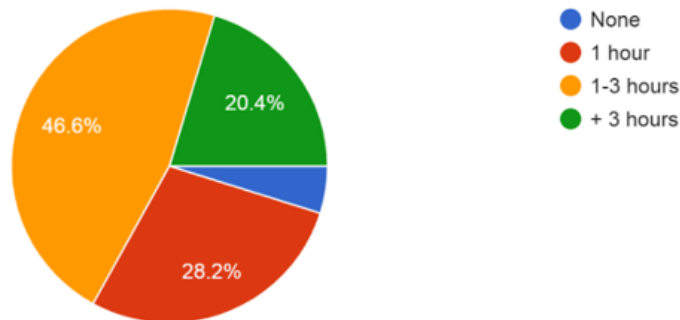


Figure 3: Participants Time Spent on Online Learning

Data Analysis

The Analysis of the First questionnaire

Part One

Figure 3 showed that 96 EFL students, who made up 46, 6% of the figure, used online learning for one to three hours every day. 42 EFL students spend more than three hours, whereas 58 EFL students spend one hour. Only 10 EFL students did not use any online learning at all. The

majority of EFL students use online learning at varying rates, as seen in Figure 3.

Figure 4 showed that 115 EFL students find full enjoyment in learning when technological instruments are used, compared to 80 EFL students who find partial enjoyment in this form of learning, and only 11 EFL students who claimed to find no pleasure in using technology in learning. The majority of EFL students clearly see the potential

Do you enjoy learning when technological tools are integrated?

206 responses

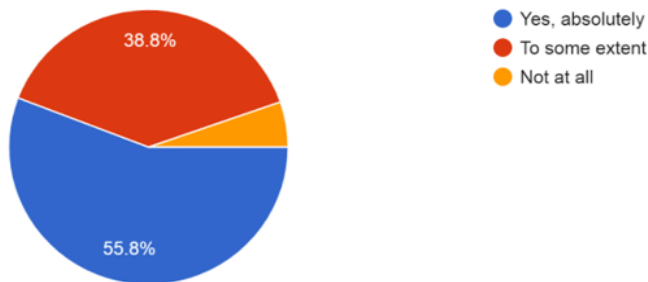


Figure 4: Participants Learning enjoyment when technology is integrated

of technology as a tool to be included in the learning environment, as seen in Figure 4.

According to figure 5, a significant portion of respondents 45.1%, or 93 EFL students—said that technology has been only somewhat helpful in their academic progress, and 74 EFL students said that they had found technology to

be extremely useful. And 28 EFL students indicated that technology has been marginally useful. 11 EFL students admitted, regrettably, that technology hasn't helped them at all. Figure 5 clearly demonstrated that the majority of EFL students' academic outcomes are positively impacted by their usage of technology.

How effective has technology been for you when it comes to learning?

206 responses

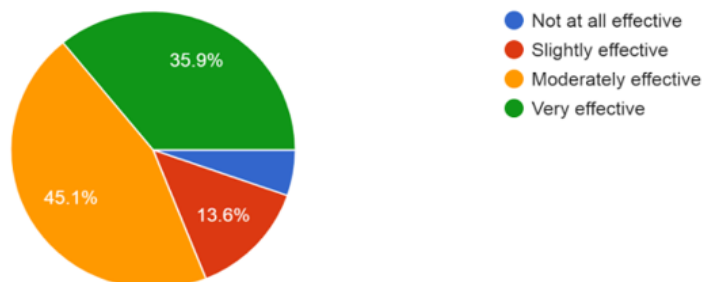


Figure 5: the Effectiveness of Technology in the Educational Sector

Do you agree with the idea of replacing traditional learning with online learning?
206 responses

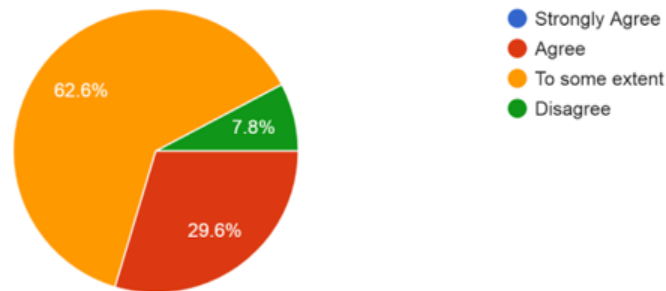


Figure 6: Participants Opinion with the Idea of Replacing Traditional Learning with Online Learning

Figure 6 clearly revealed that 129 EFL students expressed resistance to the idea of substituting online learning for traditional classroom instruction, whereas 16 EFL students disagreed with it. On the other hand, 61 EFL students supported the idea of using online learning to

replace traditional learning. Figure 6 clearly showed that most EFL students favor blended learning over traditional learning and are still not ready to completely abandon it. On the basis of figure 7 above, we can clearly see that 81 EFL students claimed to have easy access to technology

How easy is it for you to get access to technological tools?
206 responses

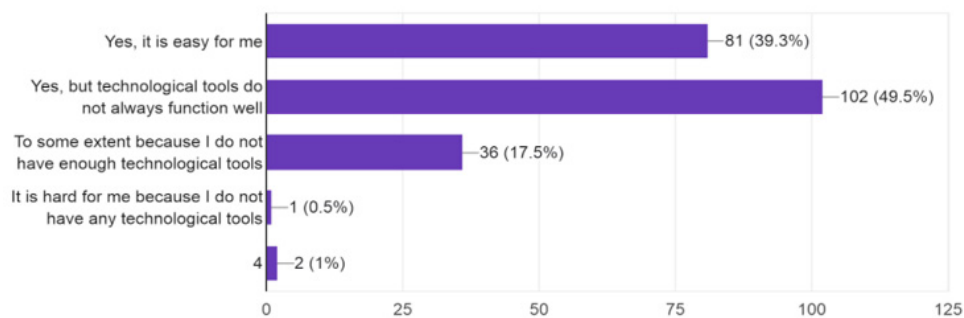


Figure 7: Participants ' easiness to Get Access to Technological Tools.

tools. Nonetheless, 102 EFL students claimed that access to technological tools was simple for them, but many grumbled that the tools did not always function as intended. Sadly, 36 EFL students reported that they find it difficult to acquire technological tools since they do not have access to enough of them. Figure 7 clearly showed that most EFL students have flexible access to technology resources.

Figure 8 revealed that 94 EFL students, that represent

a larger percentage of 45.6%, reported having good experiences with technology. Whereas 65 EFL students stated that they have excellent experiences with technology, 42 EFL students have an average experience. Unfortunately, five of the EFL students reported having little experience with technology. Figure 8 lucidly demonstrated that the majority of EFL students have sufficient tech skills to enable them to thrive in an online learning environment.

Rate your overall experience with technology?
206 responses

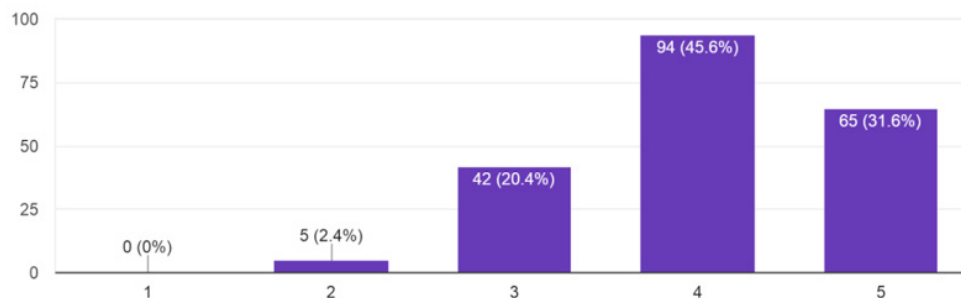


Figure 8: Participants ' Experiences with Technology

Part Two

The rest of the first online questionnaire was mainly qualitative questions in which students, who are digital natives, were asked about things they can teach to digital immigrant professors. The results are as below:

Most EFL students stated that they can teach their professors, who are digital immigrants, how to encourage, excite, and reinforce learning with technology. This can be achieved by giving digital immigrant professors suggestions on how to enhance and make learning enjoyable using technology, such as video games, Power Point presentations, and social media groups etc.

The Analysis of the Second questionnaire

The second questionnaire was delivered to 25 English professors at Moulay Ismail University through emails, but only 19 professors successfully responded to the online questionnaire.

Part One

Figure 9 clearly displayed a greater percentage of 47.4%, which corresponds to 9 professors who thought that technology can be moderately effective when integrated into educational settings and 6 professors who indicated that it can be extremely useful. Both the slightly beneficial

Do you believe that technology can be useful in improving the standard of teaching?

19 responses

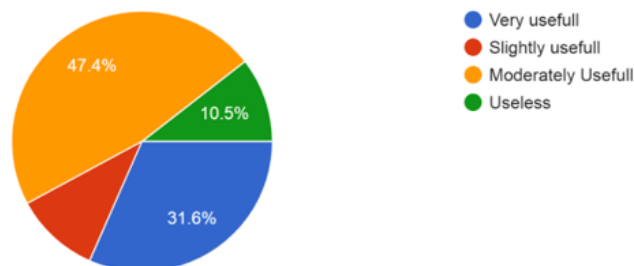


Figure 9: Professors' perceptions about the Usefulness of Technology in Teaching

How was your experience teaching students from home as compared to teaching at the university?

19 responses

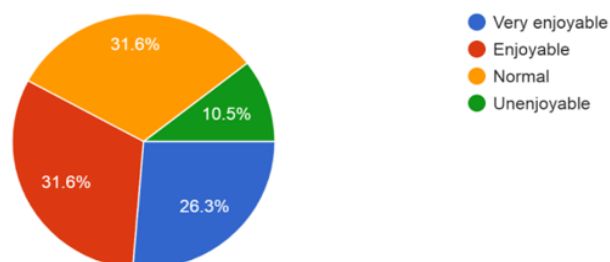


Figure 10: Professors' Experiences Teaching from Home

and useless responses received the same percentage of respondents (10.5%). Overall, Figure 9 clearly showed that the majority of professors see technology as a constructive instrument that can have a good impact on the teaching process.

Based on Figure 10, we can notice that five professors

said that remote teaching is extremely funny and six professors said it is enjoyable. The other six professors responded that their experiences with remote teaching were typical, while two thought it was unpleasant. Clearly, Figure 10 demonstrated that most professors enjoy teaching from home where technology is incorporated.

How stressful do you find teaching using technological tools?

19 responses

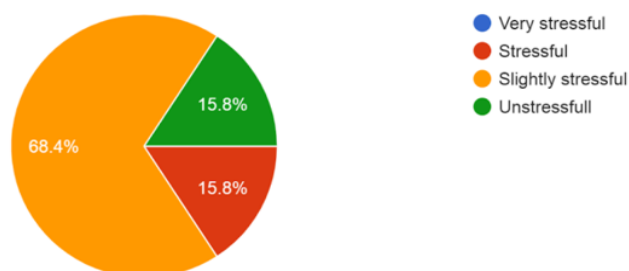


Figure 11: Professors' Stress Level when Technology is used for Teaching

Figure 11 showed that a higher portion of 68.4%, which represents 13 professors, stated that utilizing technology to teach is only a little bit stressful. While three professors claimed that utilizing technology to teach students is stressful, the other three claimed that it is not at all stressful. All in all, Figure 11 demonstrated that when technological tools are incorporated into the teaching process, practically all professors feel less stressed.

Figure 12 displayed that 12 professors support the idea of utilizing blended learning in place of traditional education. Five professors expressed reluctance over the idea of replacement, while two have voiced disagreement. Figure 12 vividly showed that the majority of professors are in favor of replacing traditional learning with blended learning as a new method of instruction.

Do you agree with the idea of replacing traditional learning with blended learning?

19 responses

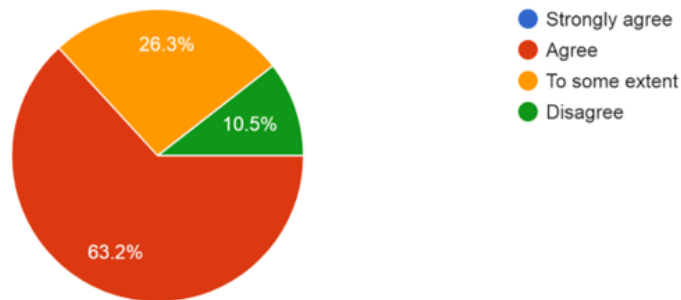


Figure 12: Professors' Agreement with the Idea of Replacing Traditional Learning with Blended Learning

According to Figure 13, ten professors claimed that access to technological tools is simple for them, whereas nine professors indicated that they have no trouble accessing such tools but have complained that they occasionally don't work well. Fortunately, none of the professors

mentioned a lack of technological resources. Clearly, Figure 13 demonstrated how simple it is for all professors to use technology resources. Consequently, this makes it simple for them to integrate technology into the teaching process.

How easy is it for you to get access to technological tools?

19 responses

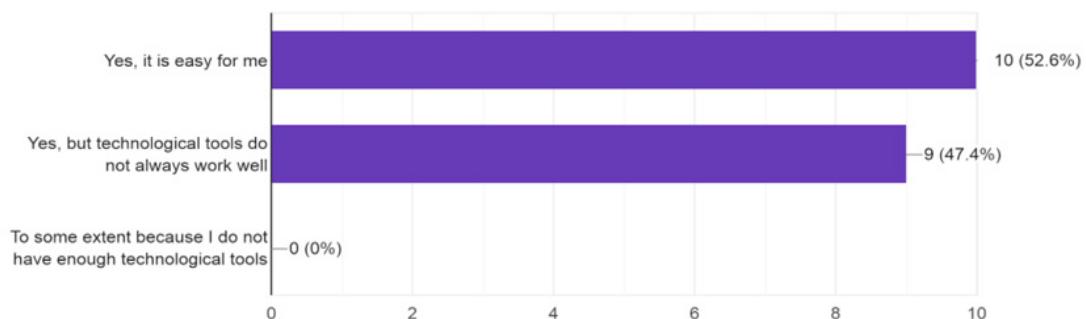


Figure 13: Professors' Easiness to get Access to Technological Tools

Rate your overall experience with using technology for teaching?

19 responses

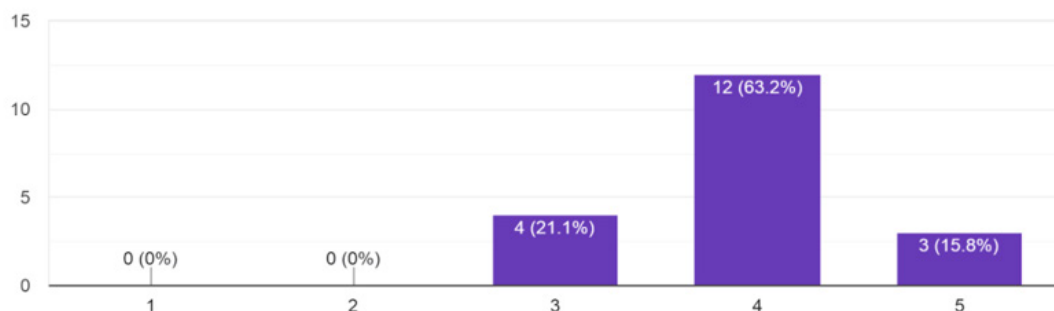


Figure 14: Professors' Experiences with Technology

Figure 14 demonstrated that 12 professors reported that they have good experiences with technology when it is used for teaching purposes. There are four professors who mentioned that they have average experiences, while three professors said that they have excellent experiences. All in all, Figure 14 shows that practically all professors have adequate technological experience.

Part Two

The rest of the second online questionnaire was mainly qualitative questions in which professors, who are digital immigrants, were asked about things they can teach to digital native students and challenges they face when technology is integrated into their teaching process. The results are as below:

- Some professors stated that they can teach digital native students how to gather information from traditional sources like books, articles, journals, etc. Students who are digital natives may not be completely aware of the abundance of knowledge present in traditional sources. In this situation, digital immigrant professors can be crucial in connecting digital native students with reliable knowledge sources.

- All professors acknowledged that they did not grow up using technology in the classroom; as a result, they are able to provide digital native students with insights into traditional learning. They said that because today's students have grown reliant on technological resources like Wi-Fi, social media platforms, and websites, their performance is more likely to suffer if technology is not present. For this reason, they can teach digital natives how to persist and manage learning when technology fails.

- The majority of professors acknowledged that they can teach students, who are digital natives, the value of interpersonal interaction in a classroom. This means that because they are always glued to their electronic devices, digital native students are missing out on social cues and non-verbal communication that happen during human interactions. The importance of body language, tone of voice, facial expression, and other factors as they relate to academic success can be taught by professors.

Professors who responded to the online questionnaire mentioned some challenges they encounter when utilizing technology in educational settings. The most repeated challenges are the ones listed below:

- Technical Issues: while employing technology for teaching, professors are more likely to be deceived by devices like a tablet, computer, phone, or even an internet connection, according to almost all professors who expressed their concerns about how it affects educational settings. This implies that technological tools are not always reliable and steady. As a result, professors find it challenging to teach online from various social media platforms that demand an internet connection.

- Distraction: this issue was noted by the majority of professors as a significant barrier to using technology for educational purposes. This suggests that technology can tempt educators to multitask, demonstrating that

professors can engage in other tasks while delivering online lectures, such as checking notifications, texting, etc. Due to the easy access to distraction provided by technology and social media platforms, this reduces their degree of attention.

- Fake news and content overload: these issues are serious problems that practically every professor who uses technology must deal with. In this sense, social media in particular and technology in general overburden professors with both relevant and irrelevant content to the point where they lack the time to sift through everything on social media and distinguish between genuine and relevant content from irrelevant and fraudulent content.

RESULTS

The present study found that:

- The majority of Moulay Ismail University's EFL students responded favorably to the issue of incorporating technology into Moroccan universities, expressing their satisfaction and comfort with this form of education due to its adaptability and wide accessibility.

- EFL students are reluctant to completely abandon traditional education since it provides face-to-face contacts, which are the most important component for humans as social beings. In this regard, due to the opportunity for both traditional and online study, blended learning is preferred by most EFL students.

- EFL students stated that technological tools occasionally let them down, such as when the computer breaks down or the internet connection becomes shaky. As a result, the online learning process sometimes may be difficult because it depends so heavily on technical instruments.

- Both students and professors said that they had no trouble gaining access to technical equipment and that they have adequate technological knowledge to succeed in learning and teaching environment.

- The majority of professors responded positively to the issue of incorporating technology into their instructional practices due to the fact that their encounters with technology were enjoyable and less stressful. This motivates them to replace traditional learning with blended learning.

- The majority of EFL learners claimed they have the ability to show their professors how to reinforce learning with technology. This can be accomplished by providing digital immigrant instructors with guidance about how to employ technology, such as video games, PowerPoint presentations, social media groups, etc., to improve and make learning enjoyable.

- The majority of professors highlighted several challenges they encounter when using technology, including: distraction, technical issues, content overload, and fake news.

- Professors acknowledged that they can teach their students, who were born as digital natives, how to obtain information from traditional sources like books, journals, and articles. They can also demonstrate to them how to

continue when technology fails and help them understand the value of social connection.

DISCUSSION

The results of this study clearly showed how technology enhances the teaching and learning process. On this view, technology tools are already being used for online learning and teaching by both digital native students and digital immigrant professors, although typically in the blended learning model. They like blended learning because it does not entirely rely on technical resources, which can occasionally fail. Overall, the study emphasizes that using technological tools for learning and teaching can be advantageous for both EFL students and professors, but that technology should only be used to improve education quality rather than to supersede traditional learning and teaching.

The results of this study met my expectations, both as a researcher and as a digital native. However, we cannot deny the fact that the use of technology is increasingly influencing and, at times, even driving actual society. All facets of life are affected by technological devices, which also drastically alter working conditions. We now have access to practically everything thanks to technology. At the same time, we can communicate with anyone and produce and distribute fresh knowledge. In this context, the rapid development of digital technology has altered how professors and students process, distribute, and filter information. As a result, there are now two groups of individuals in the world: digital natives and digital immigrants.

In recent years, I believe that education has transformed into a two-way street where reciprocal teaching and learning between professors and students is achievable. There are several opportunities to share knowledge between generations and learn from one another. I think cooperation remains essential because it was digital immigrants who created the technology that today's digital native students are so adept at using. In this regard, there can be a learning environment where professors and students can both benefit from the knowledge of everyone in the classroom since there are a variety of talents, abilities, and experiences out there. Even more, professors must create lessons on horizontal solutions; utilizing all forms of technology results in a more comprehensive grasp of the topic. Finally, since technology is here to stay, professors must approach it with an open mind to bridge the gap between students who were raised using it and professors who came to it later.

Given the fact that EFL students and professors at Moulay Ismail University in Morocco were the primary participants of this study, its generalizability is constrained by the small number of participants. It is important to note that the results of this study are based only on EFL students' and professors' perceptions, opinions, and experiences. This constraint makes it challenging to determine how far technology affects the learning and

teaching processes. In this view, to establish a concrete link between technology and the learning environment, more research is required. Future studies should consider other departments and universities to get a clear and complete picture of the emergence of technology as a new trend in Moroccan universities and the extent to which mutual learning can benefit both digital natives and professors who are digital immigrants.

CONCLUSION

As innovations in technology occur, the gap between those who have grown up using it (digital natives) and those who have not (digital immigrants) widens. At universities, where native students and professors interact, this disparity becomes apparent. In this vein, to establish an atmosphere for learning that is effective for both digital students and professors, distinct needs and preferences must be taken into consideration.

All in all, the findings of this study lucidly show how technology improves the process of teaching and learning. In this regard, both professors and students who are digital natives and immigrants have begun to employ technological tools for online learning and teaching, usually in the blended learning model. Because blended learning does not solely depend on technology resources, which may sometimes malfunction. The study stresses that, despite the fact that employing technological tools for learning and teaching can be profitable for both EFL students and professors, technology should only be utilized to buttress education quality rather than entirely supplant traditional learning and teaching methods.

REFERENCES

- Arabac, I. B., & Polat, M. (2013). Dijital yerliler, dijital gocmenler ve sinif yonetimi. *Elektronik Sysyal Bilimler*, 12(47), 11–20.
- Barbuceanu, C. D. (2020). Teaching the digital natives. *Revista De Stiinte Politice*, 65, 136–145.
- Bilgic, H. G., Dogan, D., & Seferoglu, S. S. (2016). Digital natives in online learning environments: New bottle old wine – the design of online learning environments for today's generation. *Handbook of Research on Engaging Digital Natives in Higher Education Settings*, 192–221. <https://doi.org/10.4018/978-1-5225-0039-1.ch009>
- Branscombe, A., Goswami, D., Schwartz, J., Bowen, B. (1992). Students teaching/Teachers learning. *Heinemann*.
- Cimen, B., & Hangul, S. (2021). Digital immigrant teachers' perceptions about digital native students: An investigation into turkish school context. *European Journal of Education and Psychology*, 14(2), 1–21. <https://doi.org/10.32457/ejep.v14i2.1576>
- Compeau, D., & Higgins, C. (1995). Computer self-efficacy: Development of a measure and initial test. *MIS Quarterly*, 19(2), 189–211. <https://doi.org/10.2307/249688>
- Gallardo-Echenique, E., Marques-Molas, L., Bullen, M., & Strijbos, J. (2015). Let's talk about digital learners in the digital era. *The International Review of Research in*

- Open and Distributed Learning*, 16(3), 156–187.
- Gilster, P. (1997). Digital literacy. Meridian. Wiley, New York
- GU, X., ZHU, Y., & Guo, X. (2013). Meeting the “Digital natives”: Understanding the acceptance of technology in classrooms. *Educational Technology & Society*, 16(1), 392–402.
- Guo, R., Dobson, T., & Petrina, S. (2008). Digital natives, digital immigrants: An analysis of age and ICT competency in teacher education. *Journal of Educational Computing Research*, 38(3), 235–254. <https://doi.org/10.2190/EC.38.3.a>
- Helsper, E. J., & Eynon, R. (2011). Adults learning online: Digital choice and/or digital exclusion? *New Media & Society*, 13(4), 534–551. <https://doi.org/10.1177/1461444810374789>
- Howe, N., & Strauss, W. (2003). Millennials go to College. American Association of Collegiate Registrars and Admissions Officers.
- Ktoridou, D., & Eteokleous- Grigoriou, N. (2011). Developing digital immigrants’ computer literacy: The case of unemployed women. *Campus-Wide Information Systems*, 28(3), 154–163.
- Mete, R., Riegel, C., Kozen, & Polka, W. (2017). What every contemporary teacher educator needs to know about technology. .but, didn’t know about who to ask! *The Journal of the Illinois Association of Teacher Educators*, 26, 41–55.
- National Research Council (1999). Being fluent with information technology. National Academy Press, Washington.
- Papert, S., & Resnick, M. (1995). Technological fluency and the representation of knowledge: Proposal to the national science foundation. MIT Media Laboratory, Cambridge.
- Peimani, N., & Kamalipour, H. (2021). Online education in the post covid-19 era: Students’ perception and learning experience. *Education Sciences*, 11(10), 633. <https://doi.org/10.3390/educsci11100633>
- Prensky, M. (2001). Digital natives, digital immigrants. *On The Horizon*, 9(5), 1–6. <https://doi.org/10.1108/10748120110424816>
- Rapanta, C., Botturi, L., Goodyear, P., Guardia, L., & Koole, M. (2020). Online university teaching during and after the covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, 2(3), 923–945.
- Riegel, C., & Mete, R. (2017). Educational Technologies for K-12 learners: What digital natives and digital immigrants can teach one another. *Educational Planning*, 24(4), 49–58.
- Sharma, M. (2017). Teacher in a digital ear. *Global Journal of Computer Science and Technology: G Interdisciplinary*, 17(3), 10–14.
- Tapscott, D. (1998). Educating the Net generation. *Educational Leadership*, 56(5), 6–11.
- The role of IT literacy in defining digital divide policy needs. (2011). *5th International Conference on Electronic Government*, 28(1), 3–10.
- Valek, J., & Sladek, P. (2012). Immersed into digital world: Learning and students’ perception. *Procedia - Social and Behavioral Sciences*, 69, 1866–1870. <https://doi.org/10.1016/j.sbspro.2012.12.139>
- Vassilakopoulou, P., & Hustad, E. (2021). Bridging digital divides: A literature review and research agenda for information systems research. *Information Systems Frontiers*, 1–15. <https://doi.org/10.1007/s10796-020-10096-3>
- Vodanovich, S., Sundaram, D., & Myers, M. (2010). Research commentary: Digital natives and ubiquitous information systems. *Information Systems Research*, 21(4), 711–723.
- Wang, E., Myers, M., & Sundaram, D. (2012). Digital natives and digital immigrants: Towards a model of digital fluency. *Business & Information Systems Engineering*, 5(6), 409–419.
- Wang, Q., Myers, M., & Sundaram, D. (2013). Digital natives and digital immigrants towards a model of digital fluency. *The European Conference on Information Systems (ECIS)*, 1–12. <https://doi.org/10.1007/s11576-013-0390-2>
- Zur, O. (2011). On digital immigrants and digital natives: How the digital divide affects families, educational institutions and the workplace. *Zur Institute: Innovative Resources and Online Continuing Education*, 1–13.